

# STIC SEARCH REPORT

1

## NON-PATENT LITERATURE

File 2:INSPEC 1898-2006/Mar W3  
(c) 2006 Institution of Electrical Engineers

File 6:NTIS 1964-2006/Mar W2  
(c) 2006 NTIS, Intl Cpyrght All Rights Res

File 8:EI Compendex(R) 1970-2006/Mar W3  
(c) 2006 Elsevier Eng. Info. Inc.

File 94:JICST-EPlus 1985-2006/Jan W1  
(c)2006 Japan Science and Tech Corp(JST)

File 144:Pascal 1973-2006/Mar W1  
(c) 2006 INIST/CNRS

File 65:Inside Conferences 1993-2006/Mar 29  
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File 23:CSA Technology Research Database 1963-2006/Mar  
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File 36:MetalBase 1965-20060327  
(c) 2006 The Dialog Corporation

File 25:Weldasearch 19662006/Mar  
(c) 2006 TWI Ltd

File 95:TEME-Technology & Management 1989-2006/Mar W4  
(c) 2006 FIZ TECHNIK

File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Feb  
(c) 2006 The HW Wilson Co.

Set Items Description

S1 113 DIE()(PIN OR PINS)

S2 21 CRIMP???()(DIE OR DIES)

S3 9710 (HANDTOOL? ? OR TOOL? ?)(2N)(DIE OR DIES)

S4 728013 HOLDER? ? OR RECEPTACLE? ? OR CARRIER? ?

S5 192287 CONTAINER? ? OR CONSOLE OR CONSOLES OR ORGANIZER? ?

S6 937847 STORAGE (January 2004)

S7 548842 BOARD? ? OR PANEL? ?

S8 0 S1 AND S2

S9 1 S1 AND S3 [not relevant]

S10 633 (PIN OR PINS)(2N)(DIE OR DIES)

S11 16 S10 AND S2:S3

S12 15 S11 NOT S9

S13 1 S4:S7 AND S12 [not relevant]

S14 14 S12 NOT S13

S15 9 RD (unique items)

S16 9 Sort S15/ALL/PY,A [not relevant]

File 647:CMP Computer Fulltext 1988-2006/Apr W3  
(c) 2006 CMP Media, LLC

File 674:Computer News Fulltext 1989-2006/Mar W3  
(c) 2006 IDG Communications

File 275:Gale Group Computer DB(TM) 1983-2006/Mar 28  
(c) 2006 The Gale Group

File 16:Gale Group PROMT(R) 1990-2006/Mar 29  
(c) 2006 The Gale Group

File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2006/Mar 28  
(c)2006 The Gale Group

File 621:Gale Group New Prod.Annou.(R) 1985-2006/Mar 28  
(c) 2006 The Gale Group

File 636:Gale Group Newsletter DB(TM) 1987-2006/Mar 28  
(c) 2006 The Gale Group

File 696:DIALOG Telecom. Newsletters 1995-2006/Mar 28  
(c) 2006 Dialog

File 9:Business & Industry(R) Jul/1994-2006/Mar 28  
(c) 2006 The Gale Group

File 15:ABI/Inform(R) 1971-2006/Mar 29  
(c) 2006 ProQuest Info&Learning

File 624:McGraw-Hill Publications 1985-2006/Mar 29  
(c) 2006 McGraw-Hill Co. Inc

File 635:Business Dateline(R) 1985-2006/Mar 29  
(c) 2006 ProQuest Info&Learning

Set	Items	Description
S1	27	DIE() (PIN OR PINS)
S2	61	CRIMP???() (DIE OR DIES)
S3	19227	(HANDTOOL? ? OR TOOL? ?) (2N) (DIE OR DIES)
S4	2930225	HOLDER? ? OR RECEPTACLE? ? OR CARRIER? ?
S5	881080	CONTAINER? ? OR CONSOLE OR CONSOLES OR ORGANI?ER? ?
S6	1401706	STORAGE
S7	5491928	BOARD? ? OR PANEL? ?
S8	524	(PIN OR PINS) (2N) (DIE OR DIES)
S9	17	(S1 OR S8) (S) S2:S3
S10	11	RD (unique items)
S11	1	S10 (S) S4:S6
S12	0	S10 (S) S7
S13	10	S10 NOT S11
S14	10	Sort S13/ALL/PD,A [not relevant]

11/7/1 (Item 1 from file: 160)  
DIALOG(R) File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.  
01628997

**DIE EJECTION SYSTEM SPEEDS UP SEMICONDUCTOR DIE HANDLING.**  
NEWS RELEASE April 16, 1987 p. 11

The Model 4750 Die Ejector (Poker Plate) System from Semiconductor Equipment Corp. solves the problem of quick and easy semiconductor die removal from wafer mounting tape. It can be supplied as a stand alone unit or can be interfaced into regular or high speed die bonding, pick and place, or die inspection equipment. Using the Model 4750 as a stand alone unit, just align each die over the poker pin and press the foot pedal. Vacuum locks the carrier in position and the ejector pin lifts the die from the wafer mounting tape (mounted to a carrier or film frame) for easy removal with a vacuum pencil. With a pick and place machine or die bonder, align each die to the microscope or viewscreen cross hair. The vacuum locks the carrier in position and the ejector pin lifts the die from the wafer mounting tape for pickup by the vacuum tool on your die bonder arm. Unique features include: Adaptable to most die handling and die bonding systems or as a virtually maintenance free, one moving part stand alone die plating system.

File 647:CMP Computer Fulltext 1988-2006/Apr W3  
(c) 2006 CMP Media, LLC  
File 674:Computer News Fulltext 1989-2006/Mar W3  
(c) 2006 IDG Communications  
File 275:Gale Group Computer DB(TM) 1983-2006/Mar 28  
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File 636:Gale Group Newsletter DB(TM) 1987-2006/Mar 28  
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File 696:DIALOG Telecom. Newsletters 1995-2006/Mar 28  
(c) 2006 Dialog  
File 9:Business & Industry(R) Jul/1994-2006/Mar 28  
(c) 2006 The Gale Group  
File 15:ABI/Inform(R) 1971-2006/Mar 29  
(c) 2006 ProQuest Info&Learning  
File 624:McGraw-Hill Publications 1985-2006/Mar 29  
(c) 2006 McGraw-Hill Co. Inc  
File 635:Business Dateline(R) 1985-2006/Mar 29  
(c) 2006 ProQuest Info&Learning

Set	Items	Description
S1	304603	PIN OR PINS
S2	403707	DIE OR DIES
S3	1245	S1(5N)S2
S4	2930225	HOLDER? ? OR RECEPTACLE? ? OR CARRIER? ?
S5	881080	CONTAINER? ? OR CONSOLE OR CONSOLES OR ORGANI?ER? ?
S6	1780740	STORAGE OR STORING OR STORED
S7	23	S3(10N)S4
S8	0	S3(10N)S5:S6
S9	18	RD S7 (unique items)
S10	0	S9/2004
S11	0	S9/2005
S12	1	S9/2006
S13	17	S9 NOT S12
<b>S14</b>	<b>17</b>	<b>Sort S13/ALL/PD,A</b>
S15	878469	S4/TI,DE
S16	99450	S5/TI,DE
S17	268842	S6/TI,DE
S18	14	S3 AND S15:S17
S19	14	S18 NOT S7
S20	12	RD (unique items)
<b>S21</b>	<b>12</b>	<b>Sort S20/ALL/PD,A</b>

14/3,K/1 (Item 1 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
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01628997

**DIE EJECTION SYSTEM SPEEDS UP SEMICONDUCTOR DIE HANDLING.**

NEWS RELEASE April 16, 1987 p. 11  
... die inspection equipment. Using the M0del 4750 as a stand alone

unit, just align each die over the poker pin and press the foot pedal. Vacuum locks the carrier in position and the ejector pin lifts the die from the wafer mounting tape (mounted to a carrier or film frame) for easy removal with a vacuum pencil. With a pick and place...  
... bonder, align each die to the microscope or viewscreen cross hair. The vacuum locks the carrier in position and the ejector pin lifts the die from the wafer mounting tape for pickup by the vacuum tool on your die bonder...

14/3,K/2 (Item 2 from file: 160)

DIALOG(R)File 160:Gale Group PROMT(R)  
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01829741

**NEW PROFILE NIBBLER ADDED TO TRUMPF POWER TOOL PRODUCT-LINE**

News Release November 11, 1987 p. 1

... designed as a throw-away plate. Its upper end limits the feed and protects the carrier pin against wear. Cutting plate and die are made of wear-resistant HSS.

Full text available on PTS New Product Announcements.

14/3,K/3 (Item 3 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext  
(c) 2006 CMP Media, LLC. All rts. reserv.  
00631058 CMP ACCESSION NUMBER: EET19890206S3844

**LAN on a chip**

Hauppauge, N.Y. - Arcnet, the token-passing scheme for PCs long

ELECTRONIC ENGINEERING TIMES, 1989, n 524, 1

PUBLICATION DATE: 890206

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: 524PG1

WORD COUNT: 394

... standard-cell library, have been integrated through software bridges on a 50,000-square-mil die and packaged in a 84-pin plastic leaded chip carrier .

14/3,K/6 (Item 6 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2006 The Gale Group. All rts. reserv.  
05444708 SUPPLIER NUMBER: 11212635 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Two to detail superscalar microprocessors. (Micron Technology Inc., the team of Texas Instruments and Sun Microcomputers Inc.)**

Arnold, Bill; Vaughan, Jack

EDN, v36, n17A, p1(2)

August 22, 1991

ISSN: 0012-7515 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 796 LINE COUNT: 00066

... 9-[mu]m part has 700,000 transistors and sits on a 600-sq-mil die and sits in a 164-pin leadless chip carrier or gull-wing package. It marks Micron's effort "to start learning about combining memory...

14/3,K/7 (Item 7 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2006 The Gale Group. All rts. reserv.  
05762200 SUPPLIER NUMBER: 11845239 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Turret tooling tricks. (includes related article on TNT 618 insertion tool)**  
Sprow, Eugene  
Tooling & Production, v57, n10, p55(4)  
Jan, 1992  
ISSN: 0040-9243 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 2437 LINE COUNT: 00185  
... is formed. Registration is maintained by allowing the lower **die** to  
move slightly in the **die holder**. Locating **pins** align it with the  
upper punch."...

**14/3,K/8 (Item 8 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2006 The Gale Group. All rts. reserv.  
06482309 SUPPLIER NUMBER: 13946682 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Automatic forging-die design, press selection and more; for spur gears,**  
**Eaton Corp. engineers design the forging dies, generate their drawings,**  
**and select the best press and billet size - all automatically.**  
Mutch, William R.  
American Machinist, v137, n6, p41(3)  
June, 1993  
ISSN: 1041-7958 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 1335 LINE COUNT: 00106  
... anticipated forging capacity required. Once the press is selected,  
the system determines the best-fitting **die holders**, setup heights,  
kick-**pin** size, pancake thickness, and optimum billet size (diameter and  
length).  
Although **die** design is based...

**14/3,K/11 (Item 11 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2006 The Gale Group. All rts. reserv.  
07305518 SUPPLIER NUMBER: 16124798 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Bare-die test strategies for the MCM market. (multichip modules)**  
Begay, Marlene J.  
Solid State Technology, v37, n6, p65(6)  
June, 1994  
ISSN: 0038-111X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 3950 LINE COUNT: 00321  
... into single-chip packages, is shown in Fig. 2.  
In the product flow illustrated, individual **die** can be assembled  
into a **pin** grid array (PGA), tape automated bonding, molded **carrier**  
ring quad flat pack (MCR QFP), or some other finished package. After the  
assembly process...

**14/3,K/14 (Item 14 from file: 647)**  
DIALOG(R)File 647:CMP Computer Fulltext  
(c) 2006 CMP Media, LLC. All rts. reserv.  
01030234 CMP ACCESSION NUMBER: EET19940815S0053  
**Intel adopts DieMate test (POWER TECHNOLOGIES)**  
ASHOK BINDRA  
ELECTRONIC ENGINEERING TIMES, 1994, n 810, PG58

PUBLICATION DATE: 940815  
JOURNAL CODE: EET      LANGUAGE: English  
RECORD TYPE: Fulltext  
SECTION HEADING: Design - Components  
WORD COUNT: 514

... is designed to accommodate bare **die** with pad counts of up to 280.  
A 420-pin **die carrier** is in development, according to MicroModule Systems.  
Tony Gucciardi, (508) 699-5213...

14/3,K/16      (Item 16 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2006 The Gale Group. All rts. reserv.  
06910762      Supplier Number: 58450812 (USE FORMAT 7 FOR FULLTEXT)  
**Ground-Plane Packages Help Eliminate Noise. (Technology Information)**  
Papalexis, Alex  
Electronic Design, v47, n25, p16  
Dec 6, 1999  
Language: English      Record Type: Fulltext Abstract  
Document Type: Magazine/Journal; Trade  
Word Count: 753  
ABSTRACT:  
...size and noise. The restrictions have prompted production of flexible packages that can handle small **die** sizes and high **pin** counts. The bump-chip **carrier** (BCC), for example, a chip-scale derivative, has in the package noise-reduction features and...

14/7/15      (Item 15 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2006 The Gale Group. All rts. reserv.  
04978691      Supplier Number: 47314282 (THIS IS THE FULLTEXT)  
**Aehr's DiePak Wins Motorola Order**  
Electronic News (1991), p068  
April 21, 1997  
TEXT:  
Mountain View, Calif.--Aehr Test Systems has received a high volume production order from Motorola for its **DiePak** known good **die** solution which "enables Motorola to develop, burn-in, and test its **TrueDie** bare **die** products and opens the door for more new bare **die** and MCM applications," Aehr said. The value of the order was not disclosed. Motorola recently unveiled its **TrueDie** line of SRAMs in **die** form at the Multichip Modules Conference in Denver (EN, April 7).  
**DiePak** is a system of temporary reusable bare **die carriers**, interconnect substrates and test sockets, designed to provide the flexibility to perform both burn-in and electrical testing on bare **die** with the same **carrier**. **DiePak carriers** are available for a variety of **pin** counts and **die** sizes; for wire bond, bumped and CSP packaged **die**; and is used for memory devices, microcontrollers, ASICs and microprocessors. "This solution also offers the lowest cost of ownership in the known good **die** market and works with existing burn-in and ATE equipment," Aehr said.  
The products are produced by Aehr in partnership with substrate manufacturer Nitto-Denko, and socket maker Enplas.  
According to Rhea Posedel, president/CEO of Aehr Test Systems, "**DiePak** has performed to expectations in numerous evaluations with leading semiconductor manufacturers. It is a feasible bare **die** burn-in solution

that offers both performance and simplicity and can help our customers to manufacture high quality products at a reasonable cost."

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21/7/6 (Item 6 from file: 9)

DIALOG(R)File 9:Business & Industry(R)

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01902276 Supplier Number: 25368790

**Fujitsu (Fujitsu Microelectronics launches its Bump Chip Carrier  
++packaging technology; product for radio frequency devices)**

RCR Radio Communications Report, v 18, n 29, p 35

July 19, 1999

WORD COUNT: 77

TEXT:

Fujitsu Microelectronics Inc. debuted the Bump Chip **Carrier++**-packaging technology for radio-frequency devices. The law-profile BCC++ is designed primarily for wireless applications that require high-end RF characteristics and accommodate **die** sizes with high **pin** counts. A key design feature is the center **die** cavity, which is attached directly to the motherboard, providing excellent ground shield and lower inductance. It is ideal for RF devices developed for third-generation phones and wireless connectivity that uses the Bluetooth standard. (408) 922-9104.

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 File 23:CSA Technology Research Database 1963-2006/Mar  
 (c) 2006 CSA.  
 File 36:MetalBase 1965-20060327  
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 File 94:JICST-EPlus 1985-2006/Jan W1  
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 File 144:Pascal 1973-2006/Mar W1  
 (c) 2006 INIST/CNRS  
 File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Feb  
 (c) 2006 The HW Wilson Co.  
 File 95:TEME-Technology & Management 1989-2006/Mar W4  
 (c) 2006 FIZ TECHNIK  
 File 25:Weldasearch 19662006/Mar  
 (c) 2006 TWI Ltd

Set	Items	Description
S1	116083	PIN OR PINS
S2	1119972	DIE OR DIES
S3	1093214	STORAGE OR STORING OR STORED
S4	192287	CONTAINER? ? OR CONSOLE OR CONSOLES OR ORGANI?ER? ?
S5	728013	HOLDER? ? OR RECEPTACLE? ? OR CARRIER? ?
S6	3829	S1(S)S2
S7	421	S6 AND S3:S5
S8	1205	S1(5N)S2
S9	13	S8(10N)S3:S5
S10	11	RD (unique items)
<b>S11</b>	<b>11</b>	<b>Sort S10/ALL/PY,A</b>
S12	646450	S3/TI,DE
S13	123589	S4/TI,DE
S14	369116	S5/TI,DE
S15	0	S8 AND S12S14
S16	68	S8 AND S12:S14
S17	65	S16 NOT S9
S18	59	RD (unique items)
S19	0	S18/2006
S20	6	S18/2005
S21	3	S18/2004
<b>S22</b>	<b>2</b>	<b>S18/2003 [not relevant]</b>
S23	48	S18 NOT S20:S22
<b>S24</b>	<b>48</b>	<b>Sort S23/ALL/PY,A [not relevant]</b>

11/7/5 (Item 5 from file: 8)  
 DIALOG(R)File 8:Ei Compendex(R)  
 (c) 2006 Elsevier Eng. Info. Inc. All rts. reserv.  
 04110289 E.I. No: EIP95032619602  
**Title: Development of a solution for achieving known-good-die**  
 Author: Prokopchak, Lina  
 Corporate Source: AEHR Test Systems, Mountain View, CA, USA  
 Conference Title: Proceedings of the 1994 IEEE International Test



Conference

Conference Location: Washington, DC, USA Conference Date:  
19941002-19941006

E.I. Conference No.: 42646

Source: IEEE International Test Conference. 1994. IEEE, Piscataway, NJ,  
USA, 94CH3483-5. p 15-21

Publication Year: 1994

CODEN: 001967

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review)

Journal Announcement: 9505W2

Abstract: A major problem curtailing the growth of the multichip module market is the IC manufacturer's inability to provide known-good-**die**. To address this, a cost-effective process to burn-in and test at the **die** level is in development. (Author abstract)

11/7/6 (Item 6 from file: 2)

DIALOG(R) File 2:INSPEC

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06204716 INSPEC Abstract Number: B9604-0170J-028

**Title: Developing a reusable known good die carrier**

Author(s): Burke, P.

Author Affiliation: Aehr Test Syst., Mountain View, CA, USA

Conference Title: Proceedings 1995 International Conference on Multichip Modules (SPIE Vol.2575) p.440-5

Publisher: ISHM-Microelectron. Soc, Reston, VA, USA

Publication Date: 1995 Country of Publication: USA 572 pp.

ISBN: 0 930815 42 4 Material Identity Number: XX95-01257

Conference Title: Proceedings 1995 International Conference on Multichip Modules (SPIE Vol.2575)

Conference Sponsor: ISHM-Microelectron. Soc.; Int. Electron. Packaging Soc.; Electron. Ind. Assoc.; Components, Packaging, Manuf. Technol. Soc. IEEE

Conference Date: 19-21 April 1995 Conference Location: Denver, CO, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: Aehr Test Systems is developing the **DiePak** reusable temporary **carrier** as a solution for producing known good **die** (KGD). This **carrier** is designed to be reusable several hundred times, maintain low contact resistance with the **die** (for maximum test and burn-in performance), protect the **die**, fit easily into the existing production process, and be cost-effective. Aehr Test is adapting the **carrier** to both **die** with bond pads and **die** with C4 solder bumps. The **carrier** is a single-piece, hinged unit which emulates an IC package. It is composed of a base, an interconnect ASMAT, and alignment and holding mechanisms. The ASMAT substrate connects the **die** to the socket. The lid is easy to open and has a simple latching mechanism for easy **die** insertion and removal. The **DiePak carrier** assembly can accommodate **die** with varying pin counts and size. Each **carrier** fits into a socket for burn-in and test. The small, low-cost socket is designed for ease of use, reliability and low resistance contact to the **carrier**. The development team has completed numerous experiments using both types of **die**, including extended burn-in runs, cycled temperature runs and high temperature tests. Tests were conducted using test **die** and working **die**. In these experiments, we determined contactability by measuring resistance versus temperature and force, pad wear, C4 bump deformity with force, and C4 bump flow with temperature. (0 Refs) Subfile: B

Copyright 1996, IEE

11/7/8 (Item 8 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01273148 E99010018245

**Harte Schale, Halbleiterkern - Gehaeuse fuer die Elektronik**

(Electronic packages)

PelkaJ

Fraunhofer-Inst. f. Zuverlaessigkeit u. Mikrointegration IZM, Berlin, D

Spektrum der Wissenschaft, v19, n1, pp93-94,96, 1999

Document type: journal article Language: German

Record type: Abstract

ISSN: 0170-2971

ABSTRACT:

Die Erfindung des Transistors liegt gerade 50 Jahre zurueck. Einher ging eine Entwicklung der Verdrahtungs- und Gehaeusetechnik. Dargestellt wird **dieser** Weg, der mit eingeschmolzenen Halbleiterkristallen begann und heute in eine hochspezialisierte Technologie uebergegangen ist, bei der erst **die** Integration von kompletten Systemen auf kleinstem Raum ermoeeglicht wird. Stationen **dieser** Entwicklung sind **die** Erfindung des integrierten Schaltkreises (IC, integrated circuit) im Jahre 1958. Es kamen gedruckte Schaltungen als Traeger elektronischer Systeme auf. Chips wurden auf spinnenfoermigen gestanzten Gebilden (spider) geloetet oder geklebt, ihre Anschuesse durch Drahtbonden (wire bonding) mittels duenner Draehte verbunden. Das Ergebnis sind **die** bekannten Dual-In-Line-Gehaeuse. Um Kosten fuer teure Bohrungen zu reduzieren, wurde das Flat Pack geschaffen, das mittels Dickschichttechnik auf den Traeger aufgelootet wird, **die** Oberflaechenmontagetechnik (Surface Mount Technology) setzt sich durch. Problem waren **die** Zahl der Anschuesse. Von 14 auf 24, 48 oder gar auf 64, damit war das Potential der Dual-In-Line-Gehaeuse erschoeepft. Es entstanden zunaechst **die** Quad-Flat-Packs und nach Verzicht auf herausragende Pins **die** LLCC-Gehaeuse (LLCC, leadless chip carrier ). Gehaeuse fuer **die** Durchsteckmontage erhielten **die** Bezeichnung Pin Grid Array (PGA), solche fuer Oberflaechenmontage Ball Grid Array. Man versuchte Chips ohne Gehaeuse auf keramische Schaltungstraeger zu loeten, sie fand als Flip-Chip-Technik Eingang in **die** Aufbautechnik. Weitere Schritte sind **die** Chip-Sized-Packages und das Wafer-Scale Packaging, um **die** Anschlussmoeglichkeiten zu verbessern. **Die** Mikrosystemtechnik brachte weitere Impulse fuer **die** Aufbau- und Verbindungstechnik. Letzter Stand der Entwicklung ist ein Top-Bottom-Ball-Grid-Array-Gehaeuse, das ueber Lotkugeln auf der Unterseite und Loetflaechen auf der Oberseite verfuegt und so eine Montage aufeinander ermoeeglicht.

## FOREIGN AND INTERNATIONAL PATENTS

File 350:Derwent WPIX 1963-2006/UD,UM &UP=200620

File 347:JAPIO Nov 1976-2005/Nov(Updated 060302)

Set	Items	Description
S1	137	DIE() (PIN OR PINS)
S2	282	CRIMP???() (DIE OR DIES)
S3	2350	(HANDTOOL? ? OR TOOL? ?) (2N) (DIE OR DIES)
S4	938941	HOLDER? ? OR RECEPTACLE? ? OR CARRIER? ?
S5	660702	CONTAINER? ? OR CONSOLE OR CONSOLES OR ORGANI?ER? ?
S6	1096343	STORAGE
S7	1245552	BOARD? ? OR PANEL? ?
S8	1286	(PIN OR PINS) (2N) (DIE OR DIES)
S9	12	(S1 OR S8) AND S2:S3
S10	3	S4:S7 AND S9
S11	9	S9 NOT S10
S12	3570	(DIE OR DIES) (5N) (PIN OR PINS)
S13	102469	IC=B23Q?
S14	18	S12 AND S13
S15	17	S14 NOT S9
S16	5	S15 AND S4:S7
S17	12	S15 NOT S16
S18	478	S12(S)S4:S7
S19	2	(S1 OR S8)/TI AND S2:S3/TI
S20	0	S19 NOT (S9 OR S15)
S21	84	S12/TI AND S18
S22	37	S12/TI AND S4:S6/TI
S23	29	S12/TI AND S7/TI
S24	66	S22:S23
S25	2	S13 AND S24
S26	3	S21 AND S13
S27	0	S25:S26 NOT (S9 OR S15)
S28	65	S18/TI
S29	64	S24 NOT (S9 OR S15)
S30	3	S29/2005:2006
S31	6	S29/2004

10/7/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001401030

WPI Acc No: 1975-50731W/197530

**Record pressing die tool - having cam-operated centre pin holder**

Patent Assignee: WESTERMANN W S (WEST-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 3894825	A	19750715				197530 B

Priority Applications (No Type Date): US 73428083 A 19731226

Abstract (Basic): US 3894825 A

In a record pressing die a centre pin holder having a top cap for holding a matrix on the die is forced downwards to clamp the matrix and upwards to release the matrix by a bar longitudinally movable in a cavity of the die and engaging with a wedge shaped inner end a cam member on the pin holder, the bar being turned through 180 degrees to change from the clamping to the release operation on longitudinal movement.

Derwent Class: A32; A97  
International Patent Class (Additional): B29C-017/00

10/7/3 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

(c) 2006 JPO & JAPIO. All rts. reserv.  
03797828 \*\*Image available\*\*

**TOOL EXCHANGING SYSTEM OF PUNCH PRESS**

PUB. NO.: 04-162928 [JP 4162928 A]

PUBLISHED: June 08, 1992 (19920608)

INVENTOR(s): SAKAMOTO HIROICHI

KAWAI HIROSHI

HIRABAYASHI MASAHIKO

APPLICANT(s): MURATA MACH LTD [330342] (A Japanese Company or Corporation),  
JP (Japan)

APPL. NO.: 02-289786 [JP 90289786]

FILED: October 25, 1990 (19901025)

**ABSTRACT**

PURPOSE: To perform sure receipt and delivery and to prevent erroneous receipt and delivery by providing a recessed part on a **tool** for locking and transferring it and providing projecting parts which can freely attach to and detach from the recessed parts respectively on a **tool** containing part and a **tool** exchanging device.

CONSTITUTION: When a **die tool** 31 is taken from a **die** head 14b into the side of the **tool** exchanging device 16, a clamping jaw 87 projects and the flat part at the lower end of a rod 86 abuts on a **die** fixing member 83, therefore, a transfer **pin** 75 is raised to be positioned above the **die tool** 31. When the **die** fixing member 83 is lowered under this state the transfer **pin** 75 is lowered with it and engaged with a hole 31b for the transfer **pin** of the **die tool** 31. Then, when the clamping jaw 87 is retreated, the **die tool** 31 on a **die holder** 82 is taken into the side of the **tool** exchanging device.

11/7/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003364900

WPI Acc No: 1982-M2926E/198237

**Pin -back button die - has base, crimping, ring and top sections retained together rotatably and with guides for operation in sequence**

Patent Assignee: HEUCK O H (HEUC-I)

Inventor: HEUCK O H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4346507	A	19820831				198237 B

Priority Applications (No Type Date): US 81226851 A 19810121

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4346507	A		21		

Abstract (Basic): US 4346507 A

The **die** for making a **pin-back button** comprises a base **die**, a **crimping die**, a ring **die** and a top **die**. Each **die** part is mountable on the next in the order given to form the **die** assembly. Cooperating

guides are provided on the base **die** and **crimping die** and on the ring **die** and top **die** to determine the depth to which the base enters the **crimping die** and the top **die** enters the ring **die**.

Each **die** part is rotatable with respect to that to which it is mounted to bring selected ones of the cooperating guides into and out of register to enable each **die** to perform its functions in sequence to assemble a **pin-back** button.

6/22

Derwent Class: P56

International Patent Class (Additional): B23P-011/00

11/7/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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000792492

WPI Acc No: 1971-34164S/197120

**Hot press tool die assembly**

Patent Assignee: PHYSICO-TECHNICAL INST AC (PHY -N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 274619	A					197120 B

Priority Applications (No Type Date): SU 1216558 A 19680123

Abstract (Basic): SU 274619 A

Bracket **pins** are used to close the **die** halves, these **pins** or wedges placed either side of the **dies** in guides on bevelled surfaces on the upper platen so as to work with similar bevelled areas on the **die** clamps. Slots coaxial with the columns in the top platen take wedge pushers working with the columns in the down stroke and apply pressure to the top plunger.

Derwent Class: M21; P52

International Patent Class (Additional): B21J-013/02

16/26, TI/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

009843747

WPI Acc No: 1994-123603/199415

**Lubricating sealed slide faces of link pins in die casting machine - using oil channel connecting slide face of link pin bushing to slide face of link pin**

16/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

014300597 \*\*Image available\*\*

WPI Acc No: 2002-121301/200216

**Tray for storage receptacle used in processed wafer and die, has jig attached to die storage receptacle receiving surface to hold die storage receptacle against pins extending from receiving**

Patent Assignee: GURULE P (GURU-I)

Inventor: GURULE P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20010033049	A1	20011025	US 2000199687	P	20000424	200216 B
			US 2001841623	A	20010424	

Priority Applications (No Type Date): US 2000199687 P 20000424; US  
2001841623 A 20010424

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20010033049	A1	10	B23Q-003/00	Provisional application US 2000199687

Abstract (Basic): US 20010033049 A1

NOVELTY - The tray includes number of **pins** extending from a **die storage receptacle** receiving surface. A jig is attached to the **die storage receptacle** receiving surface to hold a **die storage receptacle** against the **pins**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a **storage receptacle** removable holding method.

USE - For holding **storage receptacle** of predetermined size and shape used in processed wafer and **die** in semiconductor industry.

ADVANTAGE - Ensures rapid and accurate attachment of **die storage** pack e.g. waffle or gel pack to an inspection or manufacturing equipment via tray.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective view of portion of **die storage** pack tray.

pp; 10 DwgNo 4/6

Derwent Class: P56

International Patent Class (Main): B23Q-003/00

16/7/5 (Item 5 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

008814760 \*\*Image available\*\*

WPI Acc No: 1991-318773/199144

**Variable mould shaping - using robots to layer pins into required profile under computer control**

Patent Assignee: NISSAN MOTOR CO LTD (NSMO )

Inventor: ASANO J; IMAZU J H; ISHIBASHI K; NOMURA H; TODOROKI M; YAMAGUCHI N; YAMAMOTO K; IMAZU H

Number of Countries: 004 Number of Patents: 013

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4112736	A	19911024	DE 4112736	A	19910418	199144 B
GB 2245851	A	19920115	GB 91108443	A	19910419	199203
JP 4004943	A	19920109	JP 90103631	A	19900419	199208
JP 4022532	A	19920127	JP 90128692	A	19900518	199210
JP 4028448	A	19920131	JP 90131030	A	19900521	199211
JP 4028449	A	19920131	JP 90132899	A	19900523	199211
US 5253176	A	19931012	US 91687483	A	19910419	199342
GB 2245851	B	19940504	GB 918443	A	19910419	199415
DE 4112736	C2	19941215	DE 4112736	A	19910418	199503
JP 2596178	B2	19970402	JP 90128692	A	19900518	199718
JP 2605923	B2	19970430	JP 90103631	A	19900419	199722
JP 2867612	B2	19990308	JP 90132899	A	19900523	199915
JP 2867611	B2	19990308	JP 90131030	A	19900521	199915

Priority Applications (No Type Date): JP 90132899 A 19900523; JP 90103631 A  
19900419; JP 90128692 A 19900518; JP 90131030 A 19900521

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4112736	A		35		
JP 4028448	A		6		
JP 4028449	A		6		
US 5253176	A		33	G06F-015/46	
GB 2245851	B		21	B22C-009/00	
DE 4112736	C2		34	B22C-009/06	
JP 2596178	B2		7	B22C-007/00	Previous Publ. patent JP 4022532
JP 2605923	B2		7	B22C-007/00	Previous Publ. patent JP 4004943
JP 2867612	B2		5	B22C-007/00	Previous Publ. patent JP 4028449
JP 2867611	B2		5	B22C-007/00	Previous Publ. patent JP 4028448

Abstract (Basic): DE 4112736 A

To form a mould with **pins** in a variety of shapes, for short run casting or injection moulding, the **pins** (2) are laid by a supply (1) to be layered (4) into a given mould shape as the **pins** (2) are transferred to the shaper (4) by robots (5,6) at given positions to give the shape. The outer surface of the mould is formed by one end of the layered **pins** (2).

The robots (5,6) are pref. controlled by a computer, from data derived from the theoretical cast or moulded shape, to be produced by the variable mould shape, using alternating theoretical intersecting planes at right angles to the base of the projected shape. The robot system pref. has a **pin** handler (6) which takes the **pins** (2) from the supply (1) point and carries them separately to the layering station (4) according to mould pattern data. The layering station (4) pref. has a base plate supporting a swing channel structure moving between an angled position where the channel is upwards and in a lifted position where the inner surface is at an upwards angle, and another channel structure which is fitted to and released from the first channel unit to hold the layered **pins** (2) together in the inner zone.

ADVANTAGE - The operation handles the **pins** separately, without sticking together, so that the required mould shape is accurately developed. (35pp Dwg.No.1/41)

Abstract (Equivalent): DE 4112736 C

Mould of variable shape, for metal **die**-casting or plastics injection moulding or for shaping metal sheet, is prepared using **pins** (2) from a **storage** magazine (1), the **pins** being transported by a computer-controlled robot (5) on to a deposition table (3), from which a **pin** manipulation robot (6) moves then on to a **pin** layering arrangement (4) where they are held in channel structures.

USE/ADVANTAGE - Improved method of preparation of moulds and **dies**.  
Dwg.1/42

Abstract (Equivalent): GB 2245851 B

Apparatus for producing a **die** having a predetermined variable configuration by using a plurality of **pins**, comprising a **pin storing** device for **storing** the **pins**; a **pin** placing device for holding a group of **pins**; a **pin** transferring device which transfers a predetermined number of **pins** from the **pin storing** device to the **pin** placing device, thereby forming a group of **pins** whose ends define part of the said configuration; a **pin** piling device for holding piled **pins** whose ends define the said configuration and a **pin** group handling device which transfers the group of **pins** intact from the **pin** placing device to the **pin** piling device, thereby enabling the said configuration to be built up as successive groups of **pins** are transferred from the **pin** placing device to the **pin** piling device.

Dwg.1/8

Abstract (Equivalent): US 5253176 A

Appts. for producing a variable configuraton **die** has a robot (5,6) to move **pins** (2) from a store (1), to a piling device (3) in which the **die** is produced. Robot is operated by a computer-aided controller (8) so that the **pins** are placed onto set positions of the piling device. This gives **die** a recessed surface defined by **pin** ends.

Robot is pref. controlled in accordance with data representing the shape of a cast metal **die** to be produced from the variable configuration **die**, and the data are provided by cutting an imaginary cast **die** on mutually intersected planes perpendicularly to the flat bottom surface of the imaginary **die**.

ADVANAGE - Ensures a smooth **die** surface.

Dwg.1/42

Derwent Class: M22; P52; P53; P56; P62; X25

International Patent Class (Main): B22C-007/00; B22C-009/00; B22C-009/06;  
G06F-015/46

International Patent Class (Additional): B21D-037/02; B21D-037/20;  
B21K-005/20; B23P-015/24; **B23Q-035/44** ; B25J-009/00; B29C-033/10;  
B29C-033/38

17/26, TI/8 (Item 8 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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007719071

WPI Acc No: 1988-353003/198849

Fastener mounting for use with press - has conveyor carrying fasteners to loading station and ejector applying force against cut slug

17/26, TI/12 (Item 1 from file: 347)

DIALOG(R) File 347: JAPIO

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05274267

MOLDING CLAMPING DEVICE FOR METAL DIE

17/7/7 (Item 7 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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008888393 \*\*Image available\*\*

WPI Acc No: 1992-015662/199202

Die changeover apparatus for box blank cutting machine - includes die-supporting elements which support die frame as it is shifted rearwardly towards output end of machine

Patent Assignee: LAWRENCE PAPER CO (LAWR-N)

Inventor: MEEKS W R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5072507	A	19911217	US 90605741	A	19901030	199202 B
Priority Applications (No Type Date): US 90605741 A 19901030; US 90605741 A 19901030						

Abstract (Basic): US 5072507 A

The change-over apparatus (32) includes **die**-supporting elements (156, 158) designed to support the **die** frame (26) as it is shifted



rearwardly towards the output end (46) of the machine (20). Moreover, the elements (158) include **selectively extensible pins** which are received within corresponding **die frame apertures**, so that the **die frame (26)** may be pivoted to an upright **die changeover position**.

Limit stops limit the pivoting movement of the **die frame (26)**, and stabilise the **die frame (26)** in its upright position.

ADVANTAGE - Permits the machine **die structure (28)** to be rapidly changed without the necessity for completely removing the **die frame** from the machine. Reduces down time and economic loss. (14pp Dwg.No 3/17

Derwent Class: P56; P72

International Patent Class (Additional): **B23Q-003/15** ; B31B-001/14

17/7/9 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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003349155

WPI Acc No: 1982-K7176E/198232

**Register for steel rule die and counter-plate - comprises pin fitting die and counter-plate holes to hold in alignment within reciprocating cutter**

Patent Assignee: ATLAS STEEL RULE (ATLA-N)

Inventor: GRABOYES H A; HELMAN F D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4341008	A	19820727				198232 B

Priority Applications (No Type Date): US 80220373 A 19801229

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4341008	A		5		

Abstract (Basic): US 4341008 A

Adhesive support pads are secured upon the **die** about the rules. The counter plate is supported above the **die** with the **die** and counter plate openings in alignment. The handled **pins** are inserted into the aligned openings for securing the counter plate against transverse movement relative to the **die**.

The counter plate is pressed into contact with the support pads with the handled **pins** remaining inserted into the aligned openings. Each handled **pin** is removed from the aligned openings. A locating pin is inserted into each aligned opening after removal of the handled **pin** to form a **die** and counter plate unit. The **die** and counter plate unit are placed between reciprocable platens of the cutter and each **die** and counter plate secured to a platen. The counter plate and **die** are separated and the support pads removed.

Derwent Class: P56

International Patent Class (Additional): **B23Q-003/00**

17/7/10 (Item 10 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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003068640

WPI Acc No: 1981-G8678D/198130

**Quick-change fixture for pair of dies for power press - comprises pair of base plates to which dies are mounted, with vertical posts inserted into**

**holes in plates to give correct alignment**

Patent Assignee: FUTABA DENSHI KOGYO (FUTK )

Inventor: NAKAMURA I

Number of Countries: 003 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2067119	A	19810722	GB 8037982	A	19801127	198130 B
DE 3045243	A	19810903				198137
US 4397094	A	19830809				198334
GB 2067119	B	19840725				198430
US 4555840	A	19851203				198551

Priority Applications (No Type Date): JP 79154985 A 19791201

Abstract (Basic): GB 2067119 A

To locate and align **dies** on base plates for subsequent mounting on a **die** set, posts (11) are inserted into openings (9) of the respective base plates (7A, 7B). With the base plates in vertically parallel relationship, and the upper base plate able to effect vertical reciprocal movement, the **dies** (13,14) are mounted on the base plates.

The posts are then removed, and the base plates are located in the **die** set by means of **pins** projected into the holes

Abstract (Equivalent): US 4555840 A

The alignment of the **dies** is made by assembling a pair of the base plates in the form of a **die** set using jigs to be inset inserted into openings of the base plates. This accurately aligns the base plate in vertically parallel relationship, keeping space between and permitting the upper base plate to effect vertically reciprocal movement to accurately locate and align the **dies** w.r.t. the base plates.

A pair of base plates and jigs accurately align the base plates in vertically parallel relationship. The upper base plate can effect vertically reciprocal movement along the jigs to accurately locate and align the **dies** w.r.t. the base plates.

USE - For accurately locating and aligning **dies** on base plates.

(8pp Dwg.No-)

Derwent Class: P52; P56; P71

International Patent Class (Additional): B21D-037/12; B23Q-003/00 ;

B30B-015/02; G01B-003/30; G01B-005/14

**29/26,TI/2 (Item 2 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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016153403

WPI Acc No: 2004-311290/200429

Die set for screw-press machine, has taper portion which can endure torsion stress generated in bottom dead center of movable die holder , provided at guide pin fitted into bush provided at movable die holder

**29/26,TI/4 (Item 4 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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015901664

WPI Acc No: 2004-059504/200406

Combination of substrate and semiconductor die package for computer, comprises semiconductor die package having lead pins extending along lead edge, and carrier device comprising thermally conductive member with pair of insert leads

29/26, TI/5 (Item 5 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
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015839404  
WPI Acc No: 2003-901608/200382

Zigzag in-line semiconductor package for computer, has J-shaped locking pins mounted on circuit board and leads which are biased against board during mounting of semiconductor die or substrate using pins

29/26, TI/7 (Item 7 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
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015664608  
WPI Acc No: 2003-726795/200369

Side pin for mounting press die on a pad, has ball lock at one end of the cylindrical holder with ball inserted into corresponding grooves of the pin depending on the position by which pin is pushed or pulled with respect to the holder

29/26, TI/9 (Item 9 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
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015174896  
WPI Acc No: 2003-235426/200323

Pressure-making goods measuring device for pressure-making molding machine has locating pins, provided on front surface of die, which is engaged to engagement holes formed on center of receptacle

29/26, TI/12 (Item 12 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
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014558756  
WPI Acc No: 2002-379459/200241

Die holder mounting structure for punch press has attachment pin which attaches die holder on movable alignment plate which is formed on top of die holder support

29/26, TI/13 (Item 13 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
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014232296  
WPI Acc No: 2002-052994/200207

Semiconductor device manufacturing method e.g. for flip-chip semiconductor device, involves attaching pin of upper molding die with hole in carrier material before injecting resin into the die for molding

29/26, TI/14 (Item 14 from file: 350)

DIALOG(R) File 350: Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
014023376  
WPI Acc No: 2001-507590/200156

Metal die mounting method for punch press, involves inserting rising die side shot pin in positioning hole formed in die holder after die vertical motion apparatus rises to passing line

29/26, TI/32 (Item 32 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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010028328

WPI Acc No: 1994-296041/199437

Semiconductor device package esp. for multi-pin, narrow width die - includes flexible substrate, with inner leads projecting into central hole, bonded to multilayer printed circuit board with external terminals and chip-accommodating hole

29/26, TI/34 (Item 34 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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009371170

WPI Acc No: 1993-064649/199308

Glue dot placing method on printed circuit boards - having pilot pins on glue die assembly mating with pilot holes in PCB so as to align PCB to glue pins

29/26, TI/35 (Item 35 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

009341743

WPI Acc No: 1993-035206/199304

Power press die set carrier - has pair of handles each pivoted to one die via pins and with latches holding them in position

29/26, TI/41 (Item 41 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

008202137

WPI Acc No: 1990-089138/199012

Multipurpose stack press tool holder - has guide pins and centering washer placed between die and punch

29/26, TI/46 (Item 46 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

007048449

WPI Acc No: 1987-048446/198707

Metal stamp - has dies locked by L-shaped projections and channels and bottom die rotated by pins engaged in container channels

29/26, TI/52 (Item 52 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

004059375

WPI Acc No: 1984-204916/198433

Bonding pins to ceramic board or printed circuit - using magnets to hold pins in holes of die. NoAbstract Dwg 0/5

29/26, TI/59 (Item 59 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

002326436

WPI Acc No: 1980-D2873C/198015

Tool holder for turret-type punching machine - has punch and die holder with guiding pins on underside fitting into grooves in rotor

29/26, TI/61 (Item 61 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

000964733

WPI Acc No: 1973-41992U/197330

Punching appts - with intermittently rotating disc /eccentric pin for reciprocally moving punch/ die holders

29/7/2 (Item 2 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2006 Thomson Derwent. All rts. reserv.

016153403 \*\*Image available\*\*

WPI Acc No: 2004-311290/200429

Die set for screw-press machine, has taper portion which can endure torsion stress generated in bottom dead center of movable die holder, provided at guide pin fitted into bush provided at movable die holder

Patent Assignee: FUJI SEIMITSU KK (FUJI-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2004122206	A	20040422	JP 2002292551	A	20021004	200429 B

Priority Applications (No Type Date): JP 2002292551 A 20021004

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2004122206	A		6	B21D-037/10	

Abstract (Basic): JP 2004122206 A

NOVELTY - A taper portion (9) which can endure the torsion stress generated in the bottom dead center of a movable die holder (1) is provided at a guide pin (6) fitted into the bush (5) provided at the movable die holder.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a metallic mold for screw-press machine.

USE - For screw-press machine.

ADVANTAGE - Ensures high yield. Raises molding precision.

DESCRIPTION OF DRAWING(S) - The figure shows the front elevation of the die set.

Movable die holder (1)

Fixing die holder (2)

Bush (5)

Guide pin (6)

Taper portion (9)

pp; 6 DwgNo 1/6

Derwent Class: P52; P71

International Patent Class (Main): B21D-037/10

International Patent Class (Additional): B21J-013/02; B30B-003/00

29/7/8 (Item 8 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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015319876 \*\*Image available\*\*

WPI Acc No: 2003-380811/200336

Multiple known good die fixture for manufacturing semiconductor device,  
has array of pogo pins provided to supply pressure to dies so as to  
hold them laterally by die carrier

Patent Assignee: SCS HIGHTECH INC (SCSH-N); CHEE W S (CHEE-I); CHEN H  
(CHEN-I)

Inventor: CHEE W S; CHEN H

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030052319	A1	20030320	US 2000691454	A	20001018	200336 B
			US 2002230971	A	20020829	

TW 501215 A 20020901 TW 2001119292 A 20010808 200338

Priority Applications (No Type Date): US 2002230971 A 20020829; US  
2000691454 A 20001018

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20030052319	A1	15	H01L-023/58	CIP of application US 2000691454
TW 501215	A		H01L-021/66	

Abstract (Basic): US 20030052319 A1

NOVELTY - An array of pogo pins (543) are provided to apply pressure to the dies corresponding to the contact surface of the probe tip substrate (20) so as to hold the dies laterally within the die carrier (30).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for multiple known good die testing method.

USE - For manufacturing semiconductor device.

ADVANTAGE - Improves electrical signal pickup, reduces crosstalk. Uniform pressure application enables to hold the dies within the die carrier.

DESCRIPTION OF DRAWING(S) - The figures show the perspective views of multiple known good die testing fixture.

probe tip substrate (20)

die carrier (30)

pogo pins (543)

pp; 15 DwgNo 1, 5b/7

Derwent Class: U11

International Patent Class (Main): H01L-021/66; H01L-023/58

29/7/17 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013427663 \*\*Image available\*\*

WPI Acc No: 2000-599606/200057

Ejector pin holder of a semiconductor wafer die-bonding apparatus -  
NoAbstract

Patent Assignee: HYUNDAI MICROSEMICON CO LTD (HYUN-N); HYUNDAI  
SEMICONDUCTOR JH (HYUN-N)

Inventor: SHIM D G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 99075470	A	19991015	KR 989695	A	19980320	200057 B
KR 280454	B	20010302	KR 989695	A	19980320	200214

Priority Applications (No Type Date): KR 989695 A 19980320

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
KR 99075470 A H01L-021/52  
KR 280454 B H01L-021/52 Previous Publ. patent KR 99075470  
Derwent Class: U11  
International Patent Class (Main): H01L-021/52

**29/7/39 (Item 39 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
008473765 \*\*Image available\*\*  
WPI Acc No: 1990-360765/199048

**Method for using die holder to cut threads on workpiece - includes locating pin with die with set screw, shim and die holder with lock screws**

Patent Assignee: HERMSTED W D (HERM-I)

Inventor: HERMSTED W D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4969780	A	19901113	US 90496281	A	19900320	199048 B

Priority Applications (No Type Date): US 90496281 A 19900320

Abstract (Basic): US 4969780 A

The method is for using a **die holder** with centering and squaring guide to cut preliminary and final threads on rotatable stationary workpieces is provided and includes a locating pin, a **die** with set screw, a shim, a **die holder** with two lock screws, a guide, three bolts, a guide bushing and a gauge.

The guide bushing presents a lot more surface area to guide the workpiece into the **die** and which holds the workpiece absolutely square to the **die** throughout operation of making a machine quality thread on the workpiece. (7pp Dwg.No.1,11/18)

Derwent Class: P54

International Patent Class (Additional): B23G-005/00

**29/7/40 (Item 40 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
008320915 \*\*Image available\*\*  
WPI Acc No: 1990-207916/199027

**Device for fixing of replaceable stamps - has die - holders die , sprung pins located in die - holder and catches**

Patent Assignee: FORGE PRESS EQUIP (FORI )

Inventor: CHELISCHE G B; SAFONOV A D; SITNIKOV M A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1510970	A	19890930	SU 4232547	A	19870420	199027 B

Priority Applications (No Type Date): SU 4232547 A 19870420

Abstract (Basic): SU 1510970 A

The device has **die-holder** (1), **die** (2), **sprung pins** (3) located in the openings of the **die-holder** and provided with anti-rotation catches. The working surfaces of the **pins** have the same shape as the recesses in the **die-holder** (1). The **pins** are provided with restrictors limiting their vertical movement. The **pins** are interconnected by an axis, which is located in a slot of control lever contacting the cut-out switch.

ADVANTAGE - Ensures reliable fixing of the **die**. Bul.36/30.9.89.  
(3pp Dwg.No.1/4)  
Derwent Class: P52  
International Patent Class (Additional): B21D-037/04

**29/7/44 (Item 44 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
007509095 \*\*Image available\*\*  
WPI Acc No: 1988-143028/198821  
**Lead shaping apparatus for semiconductor devices - has die holder including cam die for bending IC leads and push pin for die cam, and punch holder with cam punch NoAbstract Dwg 1/5**  
Patent Assignee: TOSHIBA KK (TOKE )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
JP 63084056 A 19880414 JP 86227972 A 19860929 198821 B  
Priority Applications (No Type Date): JP 86227972 A 19860929  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
JP 63084056 A 5  
Derwent Class: P52; U11  
International Patent Class (Additional): B21D-005/01; H01L-023/50

**29/7/53 (Item 53 from file: 350)**  
DIALOG(R)File 350:Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
004029121  
WPI Acc No: 1984-174663/198428  
**Casting die knock-out pin - is designed so that head is tightly fixed in holder**  
Patent Assignee: OKA R (OKAR-I)  
Number of Countries: 001 Number of Patents: 002  
Patent Family:  
Patent No Kind Date Applicat No Kind Date Week  
JP 59097750 A 19840605 JP 82208331 A 19821126 198428 B  
JP 85008136 B 19850301 198513  
Priority Applications (No Type Date): JP 82208331 A 19821126  
Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
JP 59097750 A 7  
Abstract (Basic): JP 59097750 A  
The **pin** has a head fitted into and fixed to a recess cut into a hole cut into a **holder** and a shaft extending from the head.  
An annular recess is cut into the outer circumference of the head and the maximum outer dia. of the head is equal to or less than that of the shaft. A ring is fitted into the annular recess and received with the inner surface of the hole of the **holder**. The ring may have a circular or rectangular cross sectional shape.  
2/12  
Derwent Class: M22; P52; P53; P62; P71  
International Patent Class (Additional): B21D-017/34; B21D-028/34;  
B21D-037/14; B22D-017/22; B26F-001/14; B29C-007/00; B29C-045/40;



B30B-015/02

**29/7/57 (Item 57 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
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003010675

WPI Acc No: 1981-B0684D/198106

**Package assembly for multiple integrated circuits - has die mounting and pins with metallisation pattern on top surface of package with interconnecting matched socket board**

Patent Assignee: MOSTEK CORP (MOSS )

Inventor: LINK J

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2053566	A	19810204	GB 8021575	A	19800701	198106 B
GB 2053566	B	19840502				198418

Priority Applications (No Type Date): US 7953879 A 19790702

Abstract (Basic): GB 2053566 A

The integrated circuit package is provided with a socket arrangement into which a second integrated circuit package may be plugged.

In one embodiment, metallisation patterns (22) are used to electrically interconnect the first integrated circuit package (10) to a conventional printed wiring board or ceramic wiring board (26) containing socket contacts (28) to receive lead **pins** from another integrated circuit package.

A second version is a unitized package containing integral socket contacts within the unitized integrated package to receive lead **pins** from another integrated circuit package.

Derwent Class: U11

International Patent Class (Additional): H01L-023/32

**29/7/60 (Item 60 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
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001164153

WPI Acc No: 1974-37980V/197420

**Guide pin for blanking die - mounted in spherical holder to reduce bending load**

Patent Assignee: PLATOV V I ET AL (PLAT-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 389870	A	19731119				197420 B

Priority Applications (No Type Date): SU 1637065 A 19710319

Abstract (Basic): SU 389870 A

Reduction of bending load on the guide **pin**, making possible the use of thinner guide **pins** and less accurate steps in feed, is obtained by mounting the spring loaded guide **pin** in the floating spherical **holder**. The guide **pin** backed by a spring is mounted in a spherical **holder** which is clamped to a punch-**holder** by a plate and a screw allowing for a float. During the operation of the punch, the guide **pin** is firmly held in guiding bushing with a beveled hole, fixed to the **die holder**.

Derwent Class: M21; P52  
International Patent Class (Additional): B21D-043/00

29/7/63 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2006 JPO & JAPIO. All rts. reserv.  
08574552 \*\*Image available\*\*  
**SUPPORTING STRUCTURE OF PLURAL PINS, TOOL COMPRISING PLURAL PINS ,  
PUNCH-OUT DIE , AND MANUFACTURING METHOD OF WIRING BOARD**  
PUB. NO.: 2005-322812 [JP 2005322812 A]  
PUBLISHED: November 17, 2005 (20051117)  
INVENTOR(s): KAWAJI HIROYUKI  
AMANO SATOSHI  
AOKI SHIGERU  
NAKADA MASAHIKO  
KANEIWA MIKIO  
APPLICANT(s): NGK SPARK PLUG CO LTD  
APPL. NO.: 2004-140463 [JP 2004140463]  
FILED: May 10, 2004 (20040510)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a punch-out **die** for easy replacement work of **pins** or punch **pins**.

SOLUTION: A punch-out **die** 11 comprises a punch **holder** 13, a punch guide plate 14, and a plurality of small-diameter punch **pins** 31. The small-diameter punch **pins** 31 punch out a ceramic green sheet to form a plurality of through holes. The shank 32 of the small-diameter punch **pin** 31 is housed in a housing recess 18 of the punch **holder** 13. The punch 33 of the small-diameter punch **pin** 31 protrudes outside through the guide hole 21 of the punch guide plate 14. Here, the step 34 of the shank 32 abuts against the punch guide plate 14. Thus, the plurality of small-diameter punch **pins** 31 are sandwiched and are pinched in between the punch **holder** 13 and the punch guide plate 14.

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File 350:Derwent WPIX 1963-2006/UD,UM &UP=200620  
File 349:PCT FULLTEXT 1979-2006/UB=20060323,UT=20060316  
File 348:EUROPEAN PATENTS 1978-2006/ 200611

Set	Items	Description
S1	44	AU='CARR R'
S2	9	AU='CARR ROBERT'
S3	916	DIE() (PIN OR PINS)
<b>S4</b>	<b>1</b>	<b>S1:S2 AND S3</b>
S5	72895	IC=B23Q?
S6	1	S1:S2 AND S5
S7	0	S6 NOT S4
S8	466	AU=CARR R?
S9	1	S8 AND (S3 OR S5)
S10	0	S9 NOT S4

**4/7/1 (Item 1 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
(c) 2006 Thomson Derwent. All rts. reserv.  
016540412 \*\*Image available\*\*  
WPI Acc No: 2004-699134/200468

**Die storing and organizing system, has holder for storing and organizing  
crimp dies, including apertures for receiving die pins**

Patent Assignee: FCI AMERICAS TECHNOLOGY INC (FRAT )  
Inventor: **CARR R**

Number of Countries: 001 Number of Patents: 001

**Patent Family:**

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040195748	A1	20041007	US 2003453783	P	20030311	200468 B
			US 2004771939	A	20040204	

Priority Applications (No Type Date): US 2003453783 P 20030311; US  
2004771939 A 20040204

**Patent Details:**

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040195748	A1		7	B23Q-001/00	Provisional application US 2003453783

Abstract (Basic): US 20040195748 A1

NOVELTY - A holder (120) for storing and organizing crimp dies,  
includes apertures for receiving the **die** pins (150).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for  
method of storing and organizing dies.

USE - For storing and organizing dies for crimping together  
electrical conductors.

ADVANTAGE - The holder can be fitted to a case and can be  
transported easily. Enables to engage standard crimping elements to  
store and organize the dies. Reduces cost.

DESCRIPTION OF DRAWING(S) - DESCRIPTION OF DRAWING - The figure  
shows a perspective top view of the die storing and organizing system.

dies (40)

legs (80)

snap projections (100)

holder (120)

**die pins** (150)

pp; 7 DwgNo 3/7

Derwent Class: P56

International Patent Class (Main): B23Q-001/00

File 2:INSPEC 1898-2006/Mar W3  
(c) 2006 Institution of Electrical Engineers  
File 6:NTIS 1964-2006/Mar W2  
(c) 2006 NTIS, Intl Cpyrght All Rights Res  
File 8:Ei Compendex(R) 1970-2006/Mar W3  
(c) 2006 Elsevier Eng. Info. Inc.  
File 95:TEME-Technology & Management 1989-2006/Mar W4  
(c) 2006 FIZ TECHNIK  
File 23:CSA Technology Research Database 1963-2006/Mar  
(c) 2006 CSA.  
File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Feb  
(c) 2006 The HW Wilson Co.

Set	Items	Description
S1	1051	AU=(CARR R? OR CARR, R?)
S2	113	DIE() (PIN OR PINS)
S3	0	S1 AND S2

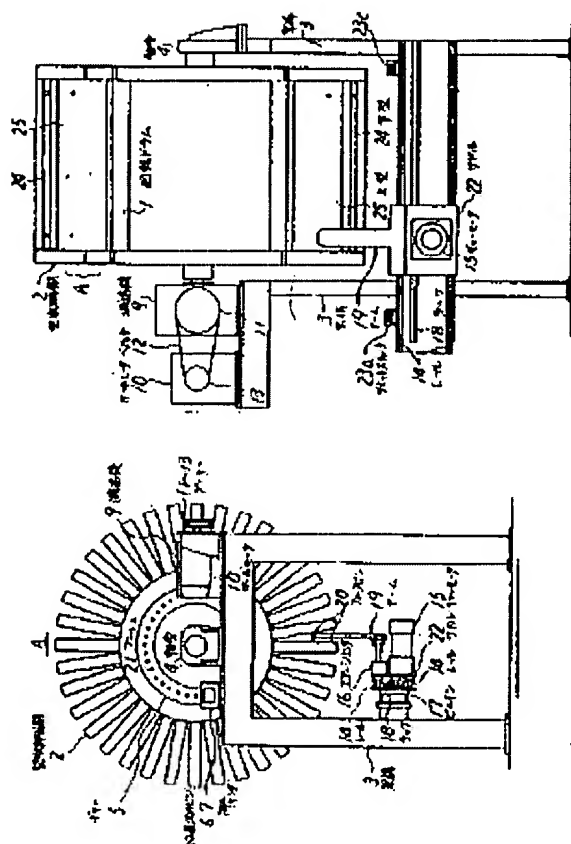
## AUTOMATIC PRESS BRAKE DIE CHANGING DEVICE

**Patent number:** JP61219431  
**Publication date:** 1986-09-29  
**Inventor:** MATSUOKA YUSHI; MIMURA AKIO  
**Applicant:** HITACHI LTD  
**Classification:**  
 - international: **B23Q3/155; B23Q3/155;** (IPC1-7): B21D5/02;  
 B21D37/04  
 - european: B23Q3/155N3  
**Application number:** JP19850060696 19850327  
**Priority number(s):** JP19850060696 19850327

Report a data error here

### Abstract of JP61219431

**PURPOSE:** To enable the automatic die change with safe and high workability in a small occupied space by installing adjacent to the main body of a press brake the die storing shelf of a rotary drum die and by arranging the rail member for die transportation corresponding to the rotary center of the rotary drum. **CONSTITUTION:** The press brake die automatic change device is composed of the die storage device A provided adjacent to the main body of a press brake (figure omitted) and the die carriage device to carry in the upper and lower dies 24, 25 on the rail 14 of the rail member provided adjacent to the head side face part of the press brake. Said die storage device A is composed by fitting plural die storing shelves 2 to store the upper and lower dies 24, 25 on the rotary drum 1 to rotate via pulley 11, 13, belt 12, speed reducer 9, gear 5, etc. by a servomotor 10. On the other hand the die carriage device is composed by placing the air cylinder 16 to actuate the arm 19 which equips with the fork pin 20 engaged with the die 24, 25 on board the moving saddle 22 via a pinion 17 and rack 18 by the driving of a gear motor 15 on said rail 14.



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**GB1227834****Patent number:** GB1227834**Publication date:** 1971-04-07**Inventor:****Applicant:****Classification:****- international:** **B41J1/00; B41J1/00;** (IPC1-7): B21D31/06; B23Q3/06**- european:** B41J1/00**Application number:** GBD1227834 19681101**Priority number(s):** US19670683518 19671116; US19670683524 19671116;  
US19680708892 19680228**Also published as:**

FR1599837 (A)

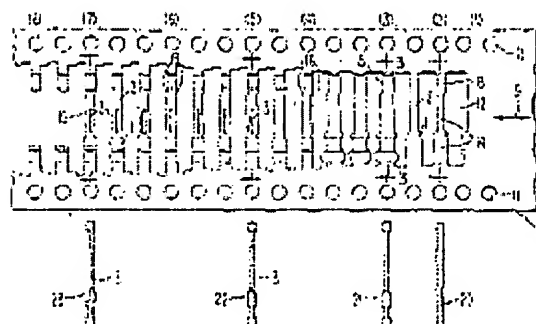
DE1808299 (A1)

CH491740 (A)

SE356466 (B)

**Report a data error here****Abstract of GB1227834**

1,227,834. Making printing type. BUR- ROUGHS CORP. 1 Nov., 1968 [16 Nov., 1967 (2); 28 Feb., 1968], No. 51854/68. Heading B6W. [Also in Division B3] A method of making printing types comprises punching a pair of substantially parallel, elongated apertures 12, 13 in a metal strip 10, shaping the metal between the apertures into type blanks each with integrally connected head and shank portions 1, 2 by passing the strip through progressive dies, severing each blank from the strip, and forming a printing type character on the head portion 1. The strip 10, which is preferably of soft steel, is fed from a coil through eight working stations in the progressive die. The operations comprise (1) perforating pilot holes 11; (2) punching the apertures 12, 13; (3) forming a blank with the integral head and shank portions 1, 2 which results in excess metal 15 being formed; (4) trimming the excess metal 15; (5) punching a retaining slot 3; (6) finally sizing the blank; (7) partially severing the blank from the strip; and (8) finally severing the blank from the strip. The forming operation at station (3) work hardens the shank portion 2, but as the head portion 1 is not operated on it remains soft. The blanks are deburred by being tumbled in an abrasive filled container. The blank is then secured in a holding fixture comprising a pair of blocks 28, 29, which provide an aperture 30 for accommodating the shank portion 2 of the blank. A cylindrical aperture 31 is formed in the block 28 which communicates with the aperture 30 via a rectangular slot 32. A plug 33 is located in the aperture 31 and comprises a metal disc 34, a resilient body 35, in which is embedded a pin 36 formed with a rectangular extension 37. The extension 37 is located in the slot 32. The blank is supported at the lower end of its head

**FIG. 2**

portion 1 by shoulders 38, 39 on the assembled blocks and additional support is provided by a member (41) underneath the shank portion 2, Fig. 7 (not shown). The holding fixture is placed in a die holder A along with a wedge shaped member B. A clamping spindle D exerts pressure on the member B to force the fixture against the opposite wall of the die holder, thereby compressing the body 35 of the plug 33 so that the extension 37 enters into the slot 3 in the blank. A print character is then formed on the head portion 1 by a kneading process.

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